

Amendments to the Claims

The listing of claims will replace all prior version, and listings, of claims in the application.

Listing of Claims

Claim 1 (Currently Amended)

A heat sink device used for ball grid array package device with modified embedded heat slug, comprising:

a first heat sink assembly having a first heat dissipating structure, and a second heat dissipating structure, said second heat dissipating structure located [[below]] above said first heat dissipating structure;

a printed circuit board having a ball grid array package device thereon, said ball grid array package device having an embedded heat slug with a cavity thereon; and

a second heat sink assembly having a protruding structure in the center of said second heat sink assembly and at least two openings on the two sides of said second heat sink assembly, wherein said first heat sink assembly located above said ball grid array package device of said printed circuit board, and said second heat sink assembly located below said ball grid array package device of said printed circuit board.

Claim 2 (Cancelled)

Claim 3 (Previously Presented)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, wherein said second heat dissipating structure is a heat dissipating fin.

Claim 4 (Currently Amended)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, wherein a thermal block is located on a backside of said first heat dissipating structure.

Claim 5 (Previously Presented)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, wherein a thermal conductive adhesive tape being located on a backside of said first heat dissipating structure.

Claim 6 (Cancelled)

Claim 7 (Previously Presented)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, further comprising a thermal material located between said first heat dissipating structure and said ball grid array package device to adhere to said first heat dissipating structure and said ball grid array package device.

Claim 8 (Previously Presented)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, wherein at least said two thermal supports located below said first heat dissipating structure.

Claim 9 (Previously Presented)

The heat sink device used for ball grid array package device with modified embedded heat slug according to Claim 1, further comprising at least two springs put around at least said two thermal supports.

Claim 10 (Previously Presented)

A heat sink device used for package device with modified embedded heat slug, comprising:
a heat sink assembly having a thermal conductive adhesive tape located on a backside of a first heat dissipating structure, and a second heat dissipating structure located above said first heat dissipating structure;
a printed circuit board having a package device thereon, wherein said package device having a cavity of an embedded heat slug; and
a thermal block embedded in said cavity of said package device, wherein said first heat dissipating structure located above said package device of said printed circuit board, and said thermal block within said cavity of said embedded heat slug is attached to said backside of said first heat dissipating structure.

Claim 11 (Cancelled)

Claim 12 (Previously Presented)

The heat sink device used for package device with modified embedded heat slug according to Claim 10, wherein said second heat dissipating structure is a heat-dissipating fin.

Claim 13 (Previously Presented)

The heat sink device used for package device with modified embedded heat slug according to

Claim 10, further comprising a thermal material located between said first heat dissipating structure and said package device.

Claim 14 (Previously Presented)

The heat sink device used for package device with modified embedded heat slug according to Claim 10, further comprising a second heat sink assembly located under said package device of said printed circuit board.

Claim 15 (Previously Presented)

The heat sink device used for package device with modified embedded heat slug according to Claim 14, wherein said second heat sink assembly having a protruding structure in the center of said second heat sink assembly and at least two openings on the two sides of said second heat sink assembly.

Claim 16 (Currently Amended)

A heat sink device of package device, comprising:

a first heat sink assembly having a first heat dissipating structure, a thermal block located on a backside of said first heat dissipating structure, a second heat dissipating structure located [[below]] above said first heat dissipating structure, and at least two thermal supports located below said first heat dissipating structure;

a printed circuit board having a package device thereon and having at least two through holes; and

a second heat sink assembly having a protruding structure in the center of said second heat sink assembly and at least two openings on the two sides of said second heat sink assembly, wherein said

at least two thermal supports of said first heat sink assembly passed through at least said two through holes of said printed circuit board, and jointed with at least said two openings on said two sides of said second heat sink assembly.

Claim 17 (Cancelled)

Claim 18 (Previously Presented)

The heat sink device of said package device according to Claim 16, wherein said second heat dissipating structure is a heat-dissipating fin.

Claim 19 (Previously Presented)

The heat sink device of said package device according to Claim 16, further comprising a conductive material filled with at least said two through holes of said printed circuit board to connect at least said two through hole with said at least said two thermal supports.

Claim 20 (Previously Presented)

The heat sink device of said package device according to Claim 16, further comprising at least two springs that put around at least said two thermal supports.